

Tenth Anniversary Symposium

Science and the Affairs of Man

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A LAST CHANCE?

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IN INTRODUCING, last month, the part of the Bulletin's Anniversary Symposium dealing with "Science and Military Strategy," the editor noted the consensus of several authors that atomic and thermonuclear weapons are about to become the mainstay of military planning of the major powers, and that the chances of their removal from national arsenals have all but disappeared. Two of the authors, C. W. Sheryn and Warren Amster, welcomed the approaching state of "mutual deterrence," promised by unhindered development of thermonuclear weapons and of the means for their interference-proof delivery; by implication, at least, they decried anything which would delay the consummation of this development. In their belief, when the two opposing major powers will be demonstrably capable of destroying each other's economy and population, but demonstrably unable to prevent retaliation, the result will be stable peace.

In the continuation of this discussion in the present issue, two other authors derive, from the same set of facts, radically different conclusions. Richard S. Leghorn, Air Force Colonel (ret.), and David Inglis, physicist (Argonne National Laboratory), both appeal to the U.S. and the USSR to make use of the last remaining opportunity to arrest the arms race before the achievement of the ultimate state of mutual deterrence. They see this last possibility in an international agreement to stop further atomic and thermonuclear bomb tests and halt the development of intercontinental ballistic missiles (IBMs). Their proposal should not be confused with recently renewed suggestions—including one by Mr. Stevenson—for unilateral cessation of thermonuclear weapon tests by the U.S.

President Eisenhower rejected these latter suggestions with a reference to the necessity for such tests as part of the program to develop IBMs with thermonuclear war

heads. Mr. Stevenson, in answer, explicitly excluded from his proposal the thermonuclear developments related to the perfection of missile weapons. By its refusal to tamper with the IBM program, Stevenson's proposal (and its rejection by President Eisenhower) ignored the main purpose of the suggestions of Leghorn and Inglis. According to the latter, stopping H-bomb tests should have as its chief aim an effective brake on the IBM development in all countries. There is little, if any, need for thermonuclear tests directed toward the development of weapons with still greater destructive power than those already tested a year ago; it seems that no such tests are intended in the current series. The main purpose of the tests appears to be the adaptation of thermonuclear bombs to new types of delivery—including guided and ballistic missiles, as well as airplanes.

It is this development that the proposals of Leghorn and Inglis are intended to stop. It is by now generally known that testing of thermonuclear weapons cannot be concealed from the world; its cessation therefore will not need verification by international inspection, which has been the bone of contention between West and East ever since U.N. negotiations concerning the control of atomic energy began in 1945. The testing of intercontinental missiles is not equally easily detected from outside the testing country—if the latter has at its disposal the land masses of Siberia, or the wide reaches of the Pacific. However, a relatively small number of extra-territorial, internationally manned radar stations within each large country would probably suffice to make the concealment of such tests impossible. It can be suggested, therefore, that foolproof control of the perfection of IBMs, as such, as well as that of nuclear warheads, is technically feasible without excessive interference with national sovereignties. The possibility of freezing the arms race, in the way suggested by Leghorn and Inglis,